



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/050,517

01/18/2002

Andrea Manganini

Q68141

7765

23373 7590 07/10/2006

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

SEFCHECK, GREGORY B

ART UNIT

PAPER NUMBER

2616

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Application No.

10/050.517

Applicant(s)

MANGANINI ET AL.

Examiner

Gregory B. Sefcheck

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4, 8, 10 and 13-16 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 8, 10, and 13-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

- Applicant's Amendment filed 3/20/2006 is acknowledged.
- Claims 1, 4, 8, 10, and 13-15 have been amended.
- The previous objection to claims 14 and 15 is withdrawn in light of the preliminary amendment filed 1/18/2002.
- The previous rejection of claim 14 under 35 USC 101 is withdrawn in light of the present amendments.
- Claims 2, 3, 5-7, 9, 11 and 12 have been cancelled.
- Claim 16 has been added.
- Claims 1, 4, 8, 10, and 13-16 are pending.

Claim Objections

1. Claim 13 is objected to because of the following informalities:

Claim 13 is shown as "(Original)" in the listing of claims submitted 3/20/2006.

However, claim amendments have been made to claim 13.

Appropriate correction is required.

Art Unit: 2616

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 10 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. "A signal frame structure" of claim 10 is not a statutory subject matter and claim 10 just describes the structure of data.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 8, 10, and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over de Boer et al. (US006616350B1), hereafter Boer, in view of Takeguchi (US006735171B2).

- In regards to Claims 1, 10, 13, and 16,

Boer discloses a method and apparatus (network element) for managing multiple simultaneous impairments in a 4 fiber SONET ring topology through use of one or more protection lines (Abstract; Fig. 1; Col. 13, lines 4-16; claim 1,13 – a method and network element for managing multiple requests of span and ring protections telecommunication network with a 4 fiber ring topology protected by a

Art Unit: 2616

traffic protection mechanism; claim 1,10,13 – receiving signals arranged as frames of bytes that comprise a first pair of event signalling bytes).

Boer discloses monitoring transmission lines for impairments that indicate loss of data, such as Loss of Signal, Loss of Pointer, Line Alarm and Path Alarm, which are carried in the SONET overhead. Based upon this monitoring, the impairment can be determined as a fiber, node or link failure. K-byte signaling can be used to signal that such an impairment has occurred so that a protection switch, span or ring type, can be performed (Col. 10-11, lines 19-36).

Boer discloses a first pair of k-bytes for requesting either a ring or span switch (Col. 11, lines 17-37; claim 1,10,13 - the first pair of event signalling bytes being used for requesting ring protection of at least one type).

Boer discloses performing both a span and ring switch on the basis of a priority scheme of the working lines within a ring (Col. 13, lines 4-17). Boer also discloses that a third k-byte can be used for requesting the switches (Col. 11, lines 37-42). However, Boer does not explicitly disclose a full additional pair of bytes for requesting two different types of span switches at the same time as requesting a ring switch, in which the additional pair of bytes are not yet reserved for other purposes.

Takeguchi discloses an SDH transmission system. Takeguchi discloses increasing the functionality of line switching control by utilizing unused bytes of the overhead (Col. 6-8, lines 1-27; claim 16 - additional pair of bytes are not yet reserved for other purposes). Furthermore, though the disclosure of Boer utilizes examples of span and ring protection switches using only one protection line, Boer does disclose that a plurality of protection lines may service a group of working transmission lines (Col. 3, lines 35-39). Implementation of the method and network

Art Unit: 2616

element using a plurality of protection lines would enable multiple span protections of different priority working lines to be performed concurrently (claim 1,10,13 – signals includes at least one additional pair of event signalling bytes being used for requesting span protection of at least two different types at the same time as request for ring protection).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a full two pair of signaling bytes for requesting span protection of at least two different types at the same time as requesting ring protection, as shown by Takeguchi and Boer. This would extend the principle of three k-bytes disclosed in Boer to provide the signaling capacity necessary to implement a ring switch at the same time as multiple span switches over a plurality of protection lines.

- In regards to Claim 8,

Boer discloses a method and apparatus for managing multiple simultaneous impairments in a 4 fiber SONET ring topology through use of one or more protection lines that covers all limitations of the parent claims.

Boer discloses a priority scheme in which the priority of working lines are evaluated when a protecting-switching failure occurs such that the protection line(s) are used to service highest priority traffic (Col. 5, lines 27-62; Col. 10-11, lines 29-8; claim 8 – network includes at least one path protected by the traffic protection mechanism; claim 8 – processing the first pair and additional pair of bytes and evaluating whether the at least one path can be protected taking into account the processing bytes).

Art Unit: 2616

- In regards to Claims 14 and 15,

Boer discloses the protection switching mechanisms of the method shown above to be implemented by software executed by a processor (Col. 8, lines 60-63; claim 14,15 – computer implemented product/medium to perform steps of method according to claims 1, 4, or 8).

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boer and Takeguchi as applied to claim 1 above, and further in view of Falkenstein et al. (US007016379B2), hereafter Falkenstein.

- In regards to Claim 4,

Boer discloses a method and apparatus for managing multiple simultaneous impairments in a 4 fiber SONET ring topology through use of one or more protection lines that covers all limitations of the parent claims.

Boer does not explicitly disclose the network being a transoceanic optical network.

Falkenstein discloses 4 fiber ring topology protection switching in a transoceanic optical network (Col. 8, line 18; claim 4 - telecommunications network is a transoceanic optical network comprising nodes connected through fiber spans having at least four fibers).

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the protection switching method of Boer on a transoceanic network, as taught by Falkenstein, thereby ensuring high priority data is resilient to faults when communicated across the ocean.

Response to Arguments

7. Applicant's arguments with respect to claims rejected over Swinkels et al. (USP 6,795,394) have been considered but are moot in view of the new ground(s) of rejection.

8. Applicant's arguments filed 3/20/2006 regarding the rejection of claim 10 under 35 USC 101 has been fully considered but they are not persuasive.

- In the Remarks on pg. 5 of the Amendment, Applicant contends that a telecommunications signal is statutory subject matter, according to *Examination Guidelines for Computer Related Inventions (March 1996)*.
- The Examiner respectfully disagrees. Applicant is advised to refer to the *Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (January, 2005)*. Pgs. 55-57 of the guidelines illustrates the ineligibility of a claim reciting a signal for patent protection.

Art Unit: 2616

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Fang et al. (US 20060078332A1)
- Honda et al. (US006879558B1)
- Usuba et al. (US006614754B1)

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory B. Sefcheck whose telephone number is

Art Unit: 2616

571-272-3098. The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GBS *GBS* :
7-6-2006

Seema S. Rao
SEEMA S. RAO 7/6/06
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600